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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,471	12/05/2003	Gwang Ho Hur	4608-4001	1299
27123	7590	03/17/2006		
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER MOORE, KARLA A	
			ART UNIT	PAPER NUMBER
			1763	
DATE MAILED: 03/17/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/729,471	HUR ET AL.	
	Examiner	Art Unit	
	Karla Moore	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1203</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 4-6 are objected to because of the following informalities: Applicant's abbreviation in the preamble of claim 4 fails to clearly convey the subject matter of the claimed invention. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 4- 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,989,346 to Hiroki in view of U.S. Patent No. 6,305,895 to Ozawa et al.

5. Hiroki discloses a flat panel display (FPD) fabricating apparatus substantially as claimed and comprising: a process chamber (Figure 29; 2, 4 and 6) in which a process is formed; a substrate support plate (10) provided in the process chamber, wherein a to-be-processed substrate is mounted on the substrate support plate; a transfer chamber (5) through which the substrate is entered into the process chamber from an exterior or through which the substrate is ejected from the process chamber to the

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exterior; a robot (Figures 20 and 29; 60) provide in the transfer chamber, wherein the robot comprises a double blade member (66a and 66b) having an upper blade and a lower blade on which the substrate is mounted, wherein the double blade member has a reciprocating motion between the process chamber and the transfer chamber, and wherein each of the upper and lower blades has a forked shape of which end is directed from the transfer chamber to the process chamber; inner lift pins (Figures 25-27, 11) provided in the process chamber, wherein the "inner" lift pins are disposed below the substrate which is mounted on the double blade member, and wherein the inner lift pins are raised up and fallen down while avoiding contact with the forked prongs of the double blade; and outer lift pins (Figures 25-27, 12) provided in the process chamber, wherein the outer lift pins are disposed at outside locations just below the substrate which is mounted in the double blade member, wherein the end portions of the outer lift pins are angled at a horizontal direction, and wherein the outer lift pins are rotated on their own vertical shafts.

6. However, Hiroka fails to teach inner and outer lift pins in the transfer chamber in addition to the processing chamber.

7. Ozawa et al. teach the use of lift pins in a transfer chamber connected to a process chamber for processing a wafer for the purpose of serving as a buffer mechanism for vertically moving the wafer and as a pre-alignment mechanism for the wafer (column 9, rows 25-33).

8. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided inner and outer lift pins in the transfer chamber of Hiroka as well in order to vertically move and pre-align wafers as taught by Ozawa et al.

9. With respect to claim 5, Hiroka fails teach the double blade member has a reciprocating translational motion without having a rotational motion.

10. Ozawa et al. teaches the use of a transfer robot with translation motion without having rotational motion because the transfer robot is connected to a single transfer chamber and only needs to be transferred in a single reciprocating direction (column 6, rows 35-40).

11. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to provide a transfer robot with reciprocating translational motion without having a rotational

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motion in an apparatus such as that of Hiroka in order to transfer wafers between a transfer chamber and a single process chamber located in single direction as taught by Ozawa et al.

12. With respect to claim 6, in Hiroka, the inner lift pins are disposed in order to uniformly support the entire substrate.

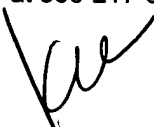
Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USP 5306380, 5823736, 6331095 and 6709521 all teach transfer between chambers using lift pin mechanisms.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 9:00 am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karla Moore
Patent Examiner
Art Unit 1763
14 March 2006